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Welcome to *Biomatter*

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It is with great pleasure and honor that I introduce *Biomatter*, a new international and transdisciplinary journal for the publication of peer-reviewed original research exploring the clinical and laboratory investigations in the field of science and application of biomaterials.

Recent developments in medicine have resulted in a considerable and unprecedented increase in lifespan. The invention of artificial implants made from biomaterials in the 1960s created a whole new scientific field and resulted in revolutionary technologies that strongly contributed to this increase in life expectancy. Since then, many exciting advancements have shaped modern biomaterials science, which itself has originated several new fields in which biology plays a major role and where the separation between engineering and health sciences can hardly be distinguished. Current and future research efforts in this field are believed to result in new therapeutic approaches to prevent and treat debilitating and life-threatening diseases. *Biomatter* intends to be on the forefront of disclosing these developments.

Biomatter appears as a forum to discuss and disclose the relevant advancements in the exciting and fast-growing field of science and application of biomaterials. It is widely anticipated that current and upcoming advances will soon result in products with the potential to dramatically change the way in which we live, probably with yet-unimaginable future implications in healthcare.

Aims and Scope

Biomatter is an international and transdisciplinary journal for the publication of peer-reviewed original research covering clinical and laboratory investigations in the field of science and the application of biomaterials, including their physicochemical and biological properties as well as clinical performance, and, especially, research emphasizing the correlation between biomaterials structure and biological performance. The journal intends to cover all applications of biomaterials, including implantable medical devices, drug delivery systems, nanomedicine, tissue engineering and regenerative medicine, and covers all types of synthetic and natural biomaterials (metals, ceramics, polymers and composites) used for biomedical applications.

The Editorial Board

The international Editorial Board of *Biomatter* is composed of reputed senior scientists as well as active rising stars in the field, coming from institutions worldwide, who have considerably contributed to the several fields related to this journal. The multidisciplinary nature of this Board assures the quality and wide coverage intended for *Biomatter*.

Types of Articles

Biomatter publishes original articles, review articles, short communications and letters to the Editor. We undertake to provide a decision 30 days following submission, while assuring a high quality peer-review process.

Topics

Biomatter covers, but is not limited to, the following topics in the context of biomaterials science:

- Advanced materials
- Animal models
- Antimicrobial strategies
- Artificial cells, tissues and organs
- Biocompatibility studies
- Biodegradable materials
- Bioethics
- Biological response
- Biomaterials synthesis and characterization
- Biomimetic strategies
- Bioreactors
- Biosensors and screening devices
- Blood substitutes
- Cell engineering
- Cell, tissue and organ transplantation
- Clinical trials
- Drug delivery systems
- Experimental methodologies
- Fluid dynamics, modeling and simulation
- Gene therapy
- In vitro and in vivo approaches
- Interactions between materials and cells and proteins
- Medical devices
- Nanomedicine and nanotechnology
- Regenerative medicine
- Regulatory and ethical issues
- Repair, replacement and regeneration
- Self-assembly
- Smart multifunctional intelligent systems
- Stem cell biology
- Structure-property-function relationship

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- Surfaces, interfaces and functionalization
- Tissue engineering

The First Issue

Biomatter is intended to help researchers, academics, clinicians, industry professionals and policy makers working in related fields of science, engineering and health sciences to disseminate information associated with biomaterials and related fields.

The first issue of *Biomatter* is essentially multidisciplinary, clearly translating the journal's scope. It includes two review articles, one on biocomposites and hybrid biomaterials by Sergey Dorozhkin and another one on pulsatile drug delivery systems by Deepika Jain and colleagues. Additionally, it includes six original reports on the topics of cancer vaccines (by Omar Ali and colleagues), nanocomposites for bone substitution (by Azhang Hamlekhan and colleagues), hybrid materials (by Luisa Dias and colleagues), cements for endodontic applications (by Cecilia Persson and Håkan Engqvist), biodegradable elastomers for soft tissue engineering (by Lynda Thomas and Prabha Nair) and knitted biodegradable scaffolds for tissue engineering (by Ville Ellä and colleagues).

This journal appears at an exciting time for biomaterials science, as the impact of the field is rising and widening. The 2010 Impact Factors (IF) were recently released by the Institute for Scientific Information (ISI), clearly showing the overall growth tendency in the field. *Cells & Materials* became the journal with the highest IF in the field, with an unprecedented value of 9.650. *Biomaterials* also increased its IF to 7.882, followed by *Nanomedicine* with 6.202, *Biomacromolecules* with 5.325, *Acta Biomaterialia* with 4.822, and *Tissue Engineering* with 4.636. A number of other journals in the field have IFs above 3, such as *Journal of the Royal Society Interface, Journal of Tissue Engineering and Regenerative Medicine*, *Macromolecular Bioscience*, *Journal of the Mechanical Behavior of Biomedical Materials*, *Biointerphases*, and *Journal of Biomedical Materials Research Part A*. Other relevant journals in the field have also raised their IF, such as *Journal of Materials Science: Materials in Medicine*, *IEEE Engineering in Medicine and Biology*, *Journal of Biomaterials Applications*, *Dental Materials*, *Colloids and Surfaces B: Biointerfaces, and Macromolecular Materials and Engineering*. The impact factors of journals in the related fields of materials science, stem cells and nanomedicine/nanotechnology are also considerably growing.

We hope that our contributors and readers will help us promote this initiative and share our enthusiasm for the journal, which we expect to become one of the most relevant forums to discuss and disclose the relevant advancements in this stimulating field.